

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/000224

Box No. I

Basis of the report

1. With regard to the language, this report is based on:

- ☐ the international application in the language in which it was filed
- ☐ the translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rule 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-11 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* 1-9 _____ received by this Authority on 13.08.2004 / letter of
- pages* _____ received by this Authority on 12.08.2004
- ☒ the drawings:
- pages 1 / 1 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims 1-9

YES

Claims

NO

Inventive step (IS)

Claims 1-9

YES

Claims

NO

Industrial applicability (IA)

Claims 1-9

YES

Claims

NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following document:

D1: EP-A-0 682 924 (HERMANN WERNER)

22 November 1995 (1995-11-22).

Document D1 is considered to the prior art closest to the subject matter of claim 1. Said document discloses (the references in parentheses are to D1) a femoral prosthesis (column 2, lines 31-57, figure 2) with a shaft (6) the distal section of which has a cross section that tapers towards the distal end (9), longitudinal ribs (10) being provided at least on the lateral and medial side of said shaft. Longitudinal ribs of different height are arranged in series, the height of the individual longitudinal ribs being constant relative to the longitudinal axis of the shaft, such that the ribs increase in height along the taper towards the distal end.

The subject matter of claim 1 therefore differs from the known hip prosthesis in that, at a distance of 1 cm from the distal end, the cross section of the core of the shaft is delimited by a right angle with an axial ratio

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

of at least 1.5 and, close to the distal end, has a rib on each of the two lateral edges, the mean height of said ribs being less than 2 mm and the delimitation of the shaft-core cross section between the two ribs not projecting laterally beyond the two ribs.

Thus, the subject matter of claim 1 is novel (PCT Article 33(2)).

The problem addressed by the present invention can, in consequence, be regarded as that of preventing the bone substance compressed between the ribs from escaping sideways and, at the same time, avoiding an overloading of the lateral bone wall.

The solution to the above problem, as proposed in claim 1 of the present application involves an inventive step (PCT Article 33(3)). The reasons are the following:

said problem is solved in that, firstly, the necessary longitudinal ribs are provided and, secondly, because of the rectangular cross section of the lateral bone wall, the greatest possible load transmission surface is placed in opposition. This solution is not disclosed in any of the documents cited in the international search report, nor is it rendered obvious thereby.

Claims 2-9 are dependent on claim 1 and therefore likewise satisfy the requirements of the PCT in respect of novelty and inventive step.